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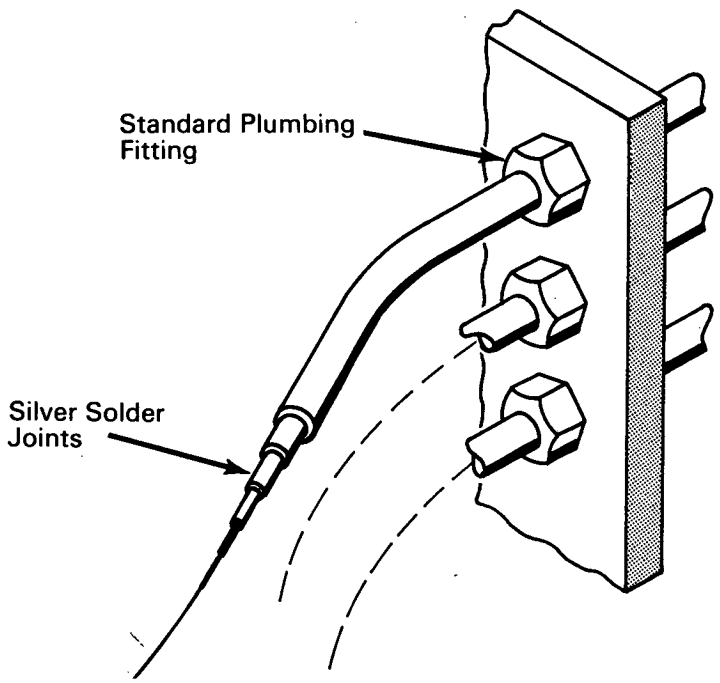
NASA TECH BRIEF

Telescoping of Instrumentation Tubing Eliminates Swaging



The problem:

To devise a rapid, economical method of fabricating small-diameter tubing assemblies having accurately stepped-down dimensions. Such tubing is conveniently fabricated by a swaging operation, which requires the use of relatively costly dies and results in excessive material loss because of fractures produced when an attempt is made to maintain close dimensional tolerances.

The solution:

Short sections of commercially available stainless steel tubing of slide-fit sizes are fitted together and silver-soldered at the junctions.

How it's done:

The large-diameter tubing section is connected to a standard plumbing fitting and the stepped-down sections are successively fitted in place until the desired reduction in diameter is obtained. The tubing sections are secured together by silver soldering.

Notes:

1. Tubing fabricated by this method has been quickly and easily connected between 0.015-inch-diameter pressure taps at various locations on wind-tunnel models and standard 0.125-inch-diameter instrumentation plumbing.

(continued overleaf)

2. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama, 35812
Reference: B66-10116

Patent status:

No patent action is contemplated by NASA.

Source: E. L. McClellan
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